## **CLAIMS**

1. A 4,5-dihydronaphtho[1,2-b]thiophene derivative expressed by the formula:

(wherein R<sup>1</sup> is a C<sub>1</sub> to C<sub>10</sub> 1-hydroxyalkyl group or a C<sub>1</sub> to C<sub>10</sub> acyl group, and R<sup>2</sup> and
R<sup>3</sup> separately substitute in the 6-, 7-, 8-, or 9-positions, and are each independently a
hydrogen atom, a halogen atom, a C<sub>1</sub> to C<sub>10</sub> alkyl group, a hydroxy group, a C<sub>1</sub> to C<sub>10</sub> alkoxy
group, a C<sub>1</sub> to C<sub>5</sub> alkenyloxy group, a C<sub>1</sub> to C<sub>5</sub> alkynyloxy group, a benzyloxy group, a nitro
group, or a group expressed by the formula -NR<sup>4</sup>R<sup>5</sup> (wherein R<sup>4</sup> and R<sup>5</sup> are each
independently a hydrogen atom, an acetyl group, a trifluoroacetyl group, a C<sub>1</sub> to C<sub>10</sub> alkyl
group, or a benzyl group), or R<sup>2</sup> and R<sup>3</sup> are bonded together to form an ethylenedioxy group,
provided that when R<sup>1</sup> is an acyl group and R<sup>2</sup> is a hydrogen atom, then R<sup>3</sup> is neither a
hydrogen atom nor an acetyl group), or a pharmaceutically acceptable salt thereof.

2. The 4,5-dihydronaphtho[1,2-b]thiophene derivative or pharmaceutically acceptable salt thereof according to Claim 1, wherein R<sup>1</sup> is a 1-hydroxyethyl group, and R<sup>2</sup> and R<sup>3</sup> are each independently a hydrogen atom, a halogen atom, a C<sub>1</sub> to C<sub>10</sub> alkyl group, a hydroxy group, a C<sub>1</sub> to C<sub>10</sub> alkoxy group, a C<sub>1</sub> to C<sub>5</sub> alkenyloxy group, a C<sub>1</sub> to C<sub>5</sub> alkynyloxy group, a benzyloxy group, a nitro group, an acetyl group, or a group expressed by the formula -NR<sup>4</sup>R<sup>5</sup> (wherein R<sup>4</sup> and R<sup>5</sup> are each independently a hydrogen atom, an acetyl group, a trifluoroacetyl group, a C<sub>1</sub> to C<sub>10</sub> alkyl group, or a benzyl group), or R<sup>2</sup> and R<sup>3</sup> are bonded together to form an ethylenedioxy group.

15

20

3. The 4,5-dihydronaphtho[1,2-b]thiophene derivative or pharmaceutically acceptable salt thereof according to Claim 1, wherein R<sup>1</sup> is an acetyl group, R<sup>2</sup> is a halogen atom, a C<sub>1</sub> to C<sub>10</sub> alkyl group, a hydroxy group, a C<sub>1</sub> to C<sub>10</sub> alkoxy group, a C<sub>1</sub> to C<sub>5</sub> alkenyloxy group, a C<sub>1</sub> to C<sub>5</sub> alkynyloxy group, a benzyloxy group, a nitro group, or a group expressed by the formula -NR<sup>4</sup>R<sup>5</sup> (wherein R<sup>4</sup> and R<sup>5</sup> are each independently a hydrogen atom, an acetyl group, a trifluoroacetyl group, a C<sub>1</sub> to C<sub>10</sub> alkyl group, or a benzyl group), and R<sup>3</sup> is a hydrogen atom, a halogen atom, a C<sub>1</sub> to C<sub>10</sub> alkyl group, a C<sub>1</sub> to C<sub>5</sub> alkenyl group, a C<sub>1</sub> to C<sub>5</sub> alkynyl group, a hydroxy group, a C<sub>1</sub> to C<sub>10</sub> alkoxy group, a benzyloxy group, a nitro group, or a group expressed by the formula -NR<sup>6</sup>R<sup>7</sup> (wherein R<sup>6</sup> and R<sup>7</sup> are each independently a hydrogen atom, an acetyl group, a trifluoroacetyl group, a C<sub>1</sub> to C<sub>10</sub> alkyl group, or a benzyl group), or R<sup>2</sup> and R<sup>3</sup> are bonded together to form an ethylenedioxy group.

5

10

20

- 4. The 4,5-dihydronaphtho[1,2-b]thiophene derivative or pharmaceutically

  15 acceptable salt thereof according to Claim 2, wherein R<sup>1</sup> is a 1-hydroxyethyl group and R<sup>2</sup>

  and R<sup>3</sup> are each independently a C<sub>1</sub> to C<sub>10</sub> alkyl group or a C<sub>1</sub> to C<sub>10</sub> alkoxy group.
  - 5. The 4,5-dihydronaphtho[1,2-b]thiophene derivative or pharmaceutically acceptable salt thereof according to Claim 3, wherein  $R^1$  is an acetyl group and  $R^2$  and  $R^3$  are each independently a  $C_1$  to  $C_{10}$  alkyl group or a  $C_1$  to  $C_{10}$  alkoxy group.
  - 6. A pharmaceutical composition comprising the 4,5-dihydronaphtho[1,2-b]thiophene derivative or pharmaceutically acceptable salt thereof according to any one of

## Claims 1 to 5.

10

15

- 7. A hypotriglyceridemic agent whose active ingredient is the 4,5-dihydronaphtho[1,2-b]thiophene derivative or pharmaceutically acceptable salt thereof
   5 according to any one of Claims 1 to 5.
  - 8. A hypoglycemic agent whose active ingredient is the 4,5-dihydronaphtho[1,2-b]thiophene derivative or pharmaceutically acceptable salt thereof according to any one of Claims 1 to 5.
  - 9. An agent for preventing or treating diabetes, hyperlipidemia, fatty liver, obesity, impaired glucose tolerance, diabetes complications, metabolic syndrome, and syndrome X, whose active ingredient is the 4,5-dihydronaphtho[1,2-b]thiophene derivative or pharmaceutically acceptable salt thereof according to any one of Claims 1 to 5.